



NOAA's National Ocean Service

## ROUNDTABLES

# NOS PRODUCTS *and* SERVICES *in* SUPPORT of SAFE NAVIGATION

**N**OAA's National Ocean Service has a statutory mandate to provide information in support of safe navigation for commerce. It does so with an array of products and services, from electronic navigational charts for hydrographic surveys and services, to shoreline mapping and rapid response in national emergencies.

### Electronic Navigational Charts

Over 330 Electronic Navigational Charts (ENCs) are now available for download at: [chartmaker.ncd.noaa.gov](http://chartmaker.ncd.noaa.gov). The entire suite of ENCs is scheduled for completion by the end of 2006, with the maintenance of ENCs requiring annual funding. "Notices to Mariners" are being applied on a monthly basis, and updated ENCs are immediately reposted. ENC distribution via the Web has been very successful; some 1,000,000 charts will be downloaded by December 31, 2003. NOS has drafted criteria for certifying ENC distributors and for developing products using the entire content of ENCs.

### Hydrographic Surveying and Services

NOS operates three hydrographic survey ships: *RAINIER*, *THOMAS JEFFERSON*, and *RUDE*, with the reactivation of *FAIRWEATHER* scheduled for 2004. A National Survey Plan, first issued in 2000 by the NOS Office of Coast Survey, is currently under revision. This plan will incorporate new information from customers and NOAA navigation managers who work with constituents concerned with safe navigation.

In 1995, NOS opened contracts for hydrographic survey services to the private sector, and has since awarded 15 contracts to survey firms. These contracts consist of providing 100 percent bottom coverage of specified areas using shallow-water multibeam and sidescan sonar. Through FY 1998, NOS had awarded more than \$100 million to various contractors who acquired approximately 5,000 square nautical miles of hydrographic survey data in critical areas. NOS plans to outsource more than \$40 million in hydrographic surveying services in FY 2004.

### National Shoreline Mapping

Mapping the national shoreline provides critical baseline data to manage coastal resources and define America's territorial limits, including the Exclusive Economic Zone. Up-to-date shoreline mapping improves charts for navigation and harbor docking; storm surge, coastal flooding, and pollution trajectory modeling; and land and marine geographic information systems.

The NOS National Geodetic Survey (NGS) has set a goal to map 95,000 miles of U.S. coastline over a 10-year cycle. This includes 54,000 miles of the contiguous United States; 33,000 miles of Alaska; and 8,000 miles of ports, which are presently on a 5-year cycle. NGS delineates the shoreline through stereo photogrammetry, using tide-coordinated aerial photography controlled by kinematic Global Positioning System (GPS) techniques. NGS is also exploring new technologies to capture the shoreline, such as Interferometric Synthetic Aperture Radar (IFSAR) and Light Detection and Ranging (LIDAR).



## N O S

W o r k i n g f o r A m e r i c a ' s C o a s t s

**National Spatial Reference System** The National Spatial Reference System (NSRS) provides a foundation for navigation in the United States. A major component of the NSRS is the network of Continuously Operating Reference Stations (CORS), which collects GPS data 24 hours a day, 7 days a week. CORS data makes it possible to position navigation aids, obstructions, tidal benchmarks, and other infrastructure to within a few centimeters' accuracy.

**Homeland Security** For many years, NOS has responded to deliberate and accidental marine accidents, oil spills, and in the aftermath of storms to determine safe navigation channels. As a result of the terrorist attacks on September 11, 2001, NOS supports Homeland Security needs by performing baseline imagery surveys of major U.S. shipping corridors and harbors. These Homeland Security surveys are vital for the U.S. Navy's response to a potential threat on a U.S. port. NOS also reviews the acquired data for hazards to navigation. During the periodic resurvey cycle determined by the Navy, NOS could task its regional Navigation Response Teams to resurvey ports from the sea buoy to major berths.

**Data Streamlining** In the fall of 2002, the NOS Office of Coast Survey (OCS) created a Data Streamlining Team to address the challenge of increasing amounts of data that strain existing processing systems. The team will aid OCS' goals by briefing management on alternative procedures to process data effectively, insuring that NOS clients and partners receive the most accurate and timely information.